SHORT REPORT

Patients' perceptions of nasopharyngeal aspiration in the emergency department of a teaching hospital in Hong Kong

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Nasopharyngeal aspiration (NPA) is the preferred method for collecting specimens for viral culture in patients with respiratory tract infection. As virus identification may influence admission and treatment decisions, it is important to perform NPA in the emergency department. The test may be uncomfortable and poorly tolerated. This prospective study investigated patients' perceptions of NPA. Patients in the emergency department with upper respiratory tract infection undergoing NPA between 9 March 2005 and 12 August 2005 were included. 86 patients (mean (SD) age 47 (23) years; 49 women) were recruited. 22 (26%) patients complained that NPA was very uncomfortable, 59 (69%) reported that it was mildly uncomfortable and 5 (6%) patients reported no discomfort. On a 10-point scale, the median discomfort score was 4. 29 (34%) patients stated that NPA was more uncomfortable than blood taking, 19 (22%) patients felt that both were similar and 38 (44%) patients felt that NPA was less uncomfortable (p value not significant). NPA performed in the emergency department is well tolerated and should be considered in emergency departments when results may influence patient management.

Nasopharyngeal aspiration (NPA) is the method of choice for collecting specimens for viral culture in patients with suspected respiratory tract infection. With the impending threat of a global influenza pandemic, early positive identification of viral infection may influence admission and treatment decisions. It is therefore important to perform the test at the earliest possible opportunity, even in the emergency department. However, the test is sometimes perceived as uncomfortable and poorly tolerated.

NPA (box 1, fig 1) has been found to be superior to either nasal or throat swab to detect pathogens by culture and rapid test.[1–4] There is a great deal of experience of its use in infants and small children in the diagnosis of respiratory syncytial virus[5] and other respiratory infections,[6 7] but little experience of its use in adult patients.[8] There are no published studies evaluating patients' perceptions of NPA in the emergency department setting. The only significant reported complication of NPA is nasal bleeding, but the incidence of bleeding is unknown.

The aim of this study was to investigate patients' perceptions of the procedure of NPA and to estimate the incidence of nasal bleeding after NPA.

METHODS

The Prince of Wales Hospital (Shatin, Hong Kong, Special Administrative Region) is a large university teaching hospital for acute disorders. The emergency department assesses 450 patients every 24 h and has extensive experience in managing complex respiratory infections including severe acute respiratory syndrome.[5] This prospective observational study was conducted from 9 March 2005 to 12 August 2005 in the emergency department of the Prince of Wales Hospital. Patients were recruited during office hours consecutively. NPA was performed by registered emergency department nurses who had been specifically trained in NPA techniques.

After the procedure, details were sought on the patient's perception of the procedure qualitatively and using an arbitrary 10-point pain scale. Patients were asked to compare the experience of NPA to routine venepuncture (performed during the index attendance at the emergency department) and about any nasal bleeding. Summary data are presented as medians. Categorical data were compared using the χ^2 test.

RESULTS

A total of 86 patients (mean (standard deviation (SD)) age 47 (23) years; 49 women) were recruited to the study, of whom 80 (93%) patients had no previous experience of NPA. In all, 22 (26%) patients complained that NPA was very uncomfortable, 59 (69%) patients said it was mildly uncomfortable and 5 (6%) patients experienced no discomfort. Using the 10-point scale, the median discomfort score was 4. All patients underwent venepuncture and NPA during the same attendance at the emergency department. In all, 29 (34%) patients complained that NPA was more uncomfortable than venepuncture, 19 (22%) patients felt it was similar to venepuncture and 38 (44%) patients felt NPA was less uncomfortable (p value not significant). In all, 5 (6%) patients developed nasal bleeding after NPA: none required active treatment.

DISCUSSION

Respiratory infection is one of the most common infectious diseases and is a leading cause of death worldwide. The severe acute respiratory syndrome outbreak showed the importance of identifying patients with community acquired pneumonia with highly contagious disease to allow appropriate inpatient infection control. Triage of patients with community acquired pneumonia to general medical wards or infectious diseases isolation wards is a central role of the emergency department.[9]

NPA is recognised as the gold standard for collecting specimens for respiratory virus identification. Performing NPA in the emergency department has the potential to improve patient care by shortening the time to definitive diagnosis. Early recognition of varying viral aetiologies is also useful for public health as it allows tracking of viral infection prevalence in all patients in the emergency department who were assessed for potential respiratory tract infections. In the context of influenza testing, enzyme immunoassays are now becoming available as bedside tests, with high sensitivities and very high specificities reported.[10 11] These offer the possibility of point-of-care testing for influenza in the emergency department, which could guide admission, cohorting and therapeutic decision making.

NPA is well tolerated by patients in the emergency department and there is minimal post-NPA nasal bleeding. Increased resources will be required to cope with increasing nursing workload as trained nurses in full personal protective equipment are necessary to reduce the risk of cross-contamination and to maximise NPA culture yields.

Abbreviation: NPA, nasopharyngeal aspiration

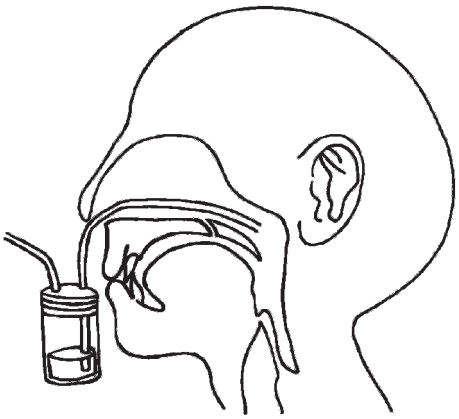

Figure 1 Nasopharyngeal aspiration.

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After a full explanation, the patient is asked to lie semi-recumbent with the neck slightly extended. A small lubricated suction catheter is placed through the nostril. The patient is instructed to hold his or her breath and the catheter is advanced until resistance is met, the tip abutting the nasopharynx. Wall suction (−100 mm Hg) is applied to the catheter with an intervening mucus trap and a nasopharyngeal specimen is collected. A small volume (approximately 1 ml) of normal saline can be instilled into the nostril to make aspiration easier. The nasopharyngeal aspirate specimen (in transport medium) can then be transported to the lab in the sterile specimen bottle.

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